

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Original): A superconducting integrated circuit comprising:

a substrate;

a multilayer structure formed on said substrate and composed of a lower Nb superconducting electrode, a tunnel barrier and an upper Nb superconducting electrode sequentially joined together upward in the order mentioned; and

an insulating layer perforated to form via holes to get electrical contacts with said lower electrode and said upper electrode, said insulating layer being formed of a high-resolution, photosensitive, solvent-soluble, ~~organic insulating material~~ block-copolyimide.

Claim 2 (Cancelled).

Claim 3 (Original): The superconducting integrated circuit according to claim 1, further comprising a resistor additionally disposed on said substrate and a via hole formed in said insulating layer to get electrical contacts with said resistor.

Claim 4-6 (Cancelled).

Claim 7 (New): The superconducting integrated circuit according to claim 1, wherein a temperature of a heat treatment for forming said insulating layer is in a range of 120°C to 150°C.

Claim 8 (New): The superconducting integrated circuit according to claim 1, wherein the insulating layer is between the substrate and the lower Nb superconducting electrode.

Claim 9 (New): The superconducting integrated circuit according to claim 8, wherein the insulating layer is between a superconducting wiring layer and the upper Nb superconducting electrode.